

**II. AMENDMENTS TO THE CLAIMS:**

Claims 1-7 are currently amended.

The following listing of claims will replace all prior versions of claims in the present application. No new matter has been added to the claims.

**Listing of Claims:**

1. (Currently Amended) A double-chamber type heat-treating furnace comprising:

(a) a hermetically closable cooling furnace incorporating therein a cooling chamber and arranged for cooling an object after being subjected to heating;

(b) a hermetically closable heating furnace incorporating therein a heating chamber disposed at a position adjacent to the cooling chamber and arranged for heating the object; and

(c) a transfer unit arranged for transferring the object between the heating chamber and the cooling chamber, wherein

the transfer unit comprises:

i. a plurality of free rollers disposed within the heating and cooling chambers, respectively, and for supporting the object at only both ends of the object in a direction of width thereof to be movable in a transferring direction;

ii. a push-pull member capable of moving while being engaged with the object thereby pushing or pulling the object between the heating and cooling chambers, wherein the push-pull member is of a length such that when a rearmost end of the push-pull member comes to a position close to a first side of the heating chamber, a frontmost end of the push-pull member arrives at a position located inside the cooling chamber; and

iii. a drive unit arranged at a position adjacent to the heating chamber on a side opposite to a side on which the cooling chamber is disposed and capable of driving the push-pull device.

2. (Currently Amended) The double-chamber type heat-treating furnace according to claim 1, wherein the push-pull member comprises an engaging member capable of turning up to a higher position thereof where the engaging member~~it~~ is engaged with the object to horizontally push and pull the object, and lying down to a lower position thereof where the engaging member~~it~~ moves horizontally without being engaged with the object.

3. (Currently Amended) The double-chamber type heat-treating furnace according to claim 2, wherein the drive unit comprises:

- (1) a horizontally movable chain connected to a rearmost end of the push-pull member and being capable of horizontally moving;
- (2) a sprocket engaged with the horizontally movable chain; and
- (3) a rotational motor that rotationally drives the sprocket.

4. (Currently Amended) The double-chamber type heat-treating furnace according to claim 1, wherein the cooling furnace comprises:

- i. a carrying-in/out door for the cooling chamber, wherein the carrying-in/out door~~which~~ is arranged on a side opposite to the side on which the heating chamber is provided and is arranged for carrying the object into and out of the cooling chamber; and
- ii. a gas-cooling/circulating unit for the cooling chamber, wherein the gas-cooling/circulating unit~~which~~ cools and circulates a gas vertically passing through an inside of the cooling chamber; and

the cooling chamber is provided for surrounding a cooling region in which the object is permitted to be steadily placed and ~~defining, in an~~ inside of the cooling chamber ~~defines~~region, and having a gas passageway with a constant cross-section in a vertical direction.

5. (Currently Amended) The double-chamber type heat-treating furnace according to claim 1, wherein the heating furnace comprises:

- \_\_\_\_\_ i. a vacuum container of which an interior is exhausted to at vacuum;
- \_\_\_\_\_ ii. a heating chamber capable of receiving therein the object;
- \_\_\_\_\_ iii. a front door for introducing and delivering the object into and from the heating chamber;
- \_\_\_\_\_ iv. a rear door for closing an opening provided for permitting, therethrough, the object within the heating chamber to be moved;
- \_\_\_\_\_ v. a mounting bed for mounting thereon the object to be horizontally movable back and forth; and
- \_\_\_\_\_ vi. a heater arranged for heating the object.

6. (Currently Amended) The double-chamber type heat-treating furnace according to claim 5, wherein the heating furnace further comprises a gas-cooling/circulating device for the heating chamber, wherein the gas-cooling/circulating device~~which~~ cools and circulates a gas passing through an inside of the heating chamber.

7. (Currently Amended) The double-chamber type heat-treating furnace according to claim 5, wherein the heating furnace further comprises a carrying-in/out door for the heating furnace, wherein the carrying-in/out door~~which~~ is disposed on a side opposite to the side on which the cooling chamber is disposed and is arranged for performing carrying-in of or carrying-out of the object.

8. (Previously Presented) The double-chamber type heat-treating furnace according to claim 1, wherein the transfer unit, the heating furnace and the cooling furnace are arranged in order.